ORDER NO. GAD8603516C1
A1

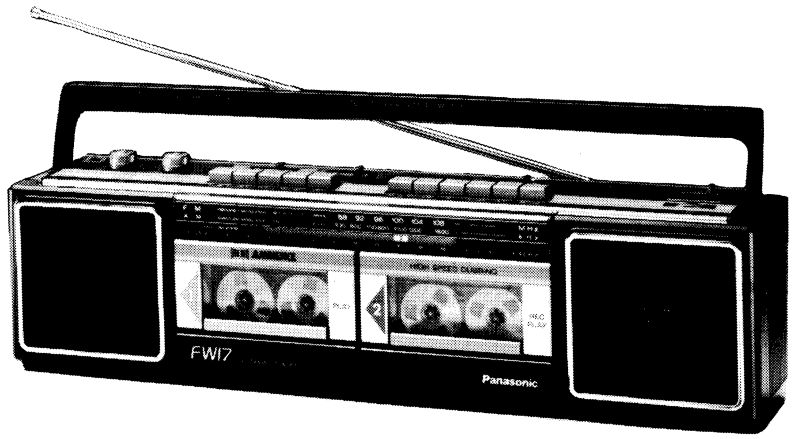
Service Manual

Radio Cassette

FM-AM-FM Stereo Dual Cassette Recorder

RX-FW17

(Black)
(Red)



This is the Service Manual for the following areas.

M ··· For U.S.A.

C ··· For Canada.

Color Variation

Area	Color
M	Black
C	Black & Silver

RX-FW17 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement:	AC; 120 V, 60 Hz with included AC adaptor RD-9448M (RD-9403MC for Canada) Battery; 9 V (Six "D" Size Flashlight Batteries) (Panasonic UM-1 or equivalent) Car Battery; with optional car adaptor RP-917H
Power Consumption:	10 W (AC only)
Power Output:	7 W (3.5 W×2)... RMS (max.)
Speaker:	4" (10cm) PM Dynamic Speaker (3Ω)
Input:	MIX. MIC; sensitivity 5 mV/applicable microphone impedance 200~600Ω, Ø3.5 Recom. Mic WM-2298 Line in; sensitivity 224 mV/47 kΩ over
Output:	Headphones; 32Ω (8~50Ω), φ3.5
Dimensions:	$19^{3}/_{4}$"(W)×$5^{5}/_{8}$"(H)×$5^{1}/_{8}$"(D) (502×142×130)mm
Weight:	4 lbs. 10 oz. (2.1kg) without batteries

Radio Section:

Radio Frequency Range:	FM; 88~108 MHz AM; 525~1610 kHz
Intermediate Frequency:	FM; 10.7 MHz AM; 455 kHz
Sensitivity:	FM; 2.5 μV/50 mW output AM; 100 μV/m/50 mW output

Tape Deck Section:	TAPE 1
Frequency Response:	70~13,000 Hz (with normal tape)
Tape Speed:	1⅞ ips (4.8 cm/s)
Track System:	4-track 2-channel stereo playback

Tape Deck Section:	TAPE 2
Frequency Response:	70~13,000 Hz (with normal tape)
Recording System:	AC bias, Magnet erase
Tape Speed:	1⅞ ips (4.8 cm/s)
Track System:	4-track 2-channel stereo recording and playback

Weights and dimensions shown are approximate.
(Les poids et dimensions mentionnes sont approximatifs.)
Design and specifications are subject to change without notice.

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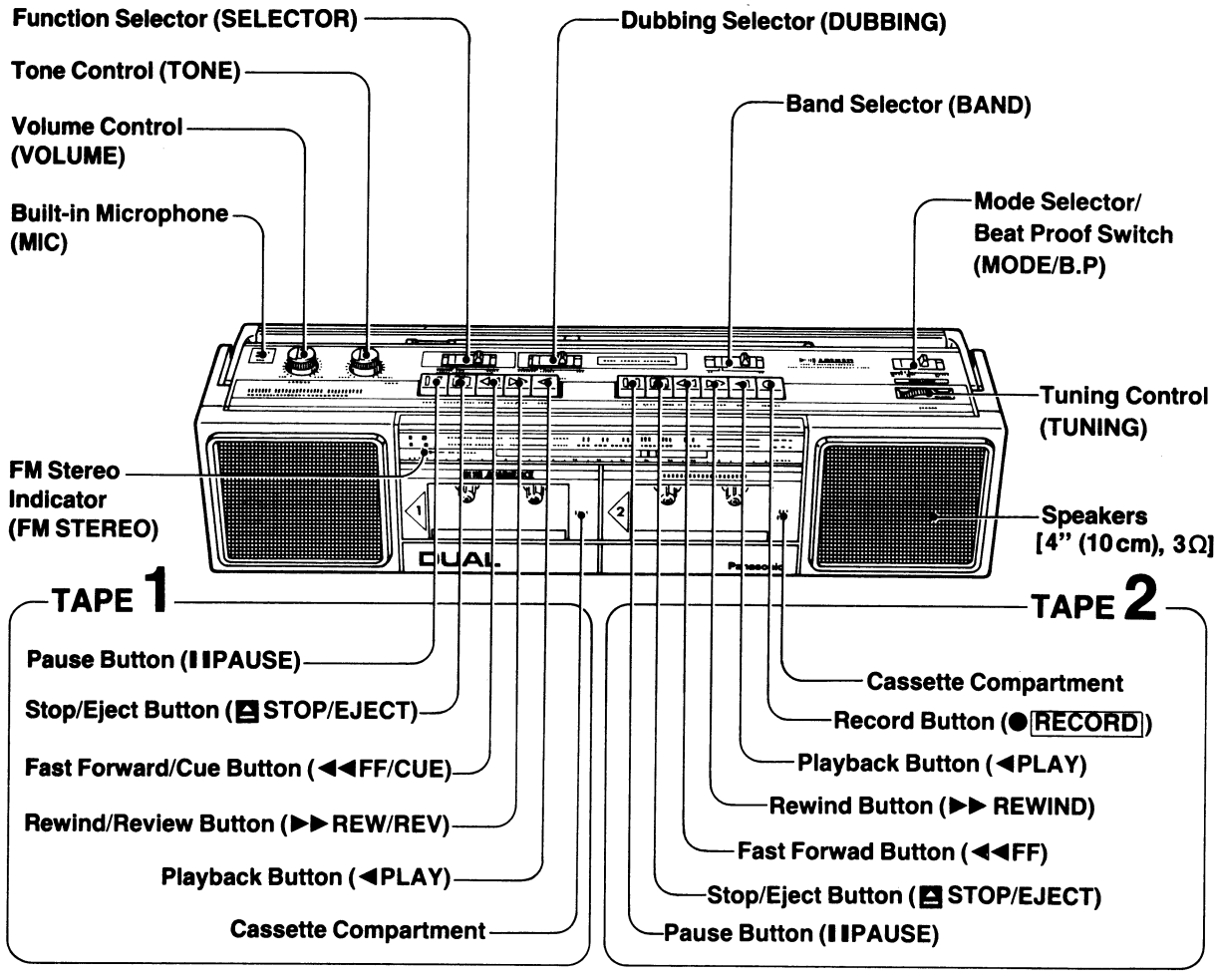
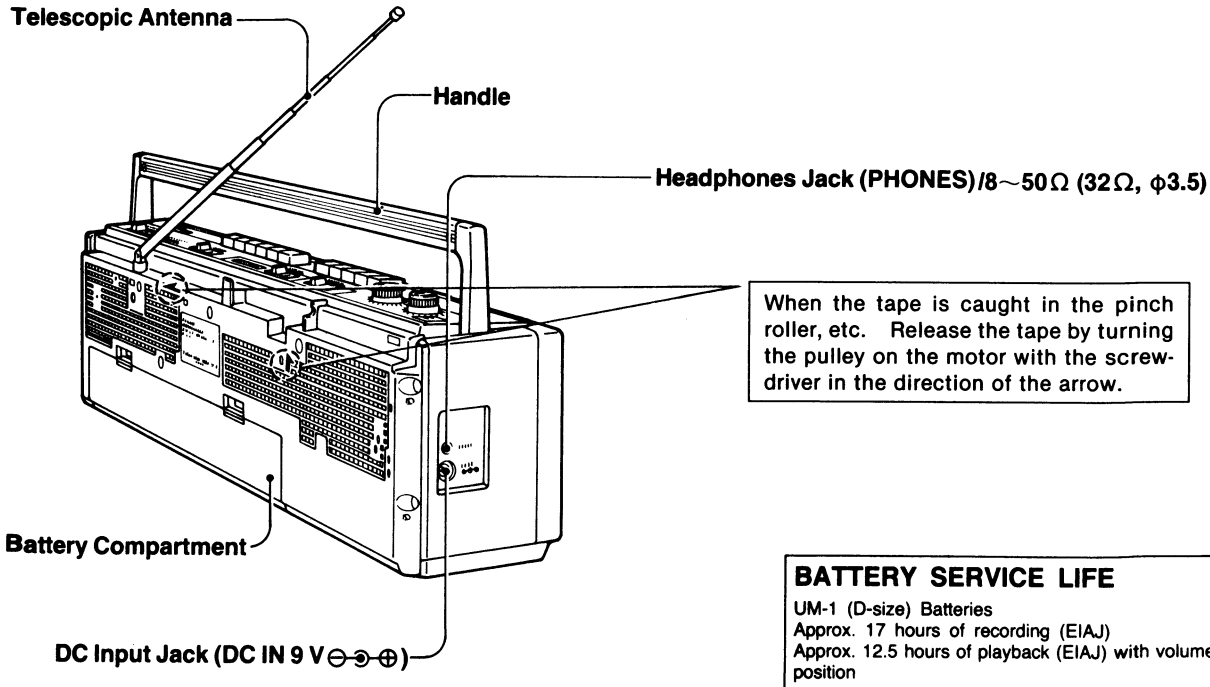
LOCATION OF CONTROLS AND COMPONENTS




Telescopic Antenna
Handle
Headphones Jack (PHONES) 8~50Ω (32Ω, φ3.5)
When the tape is caught in the pinch roller, etc. Release the tape by turning the pulley on the motor with the screw-driver in the direction of the arrow.
Battery Compartment
DC Input Jack (DC IN 9 V ⊖⊙⊕)

BATTERY SERVICE LIFE

UM-1 (D-size) Batteries
Approx. 17 hours of recording (EIAJ)
Approx. 12.5 hours of playback (EIAJ) with volume set at 8.5 position

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

D

DISASSEMBLY INSTRUCTIONS

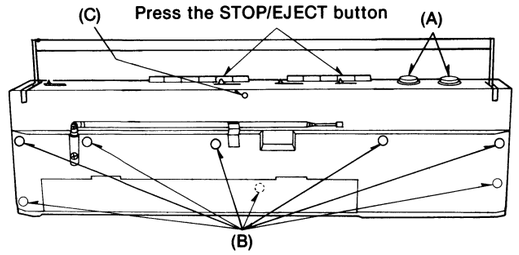


Fig. 1

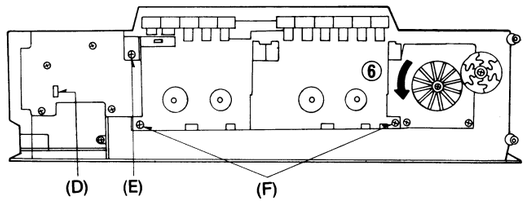


Fig. 2

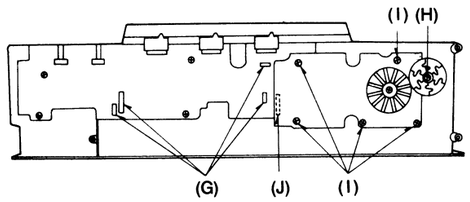


Fig. 3

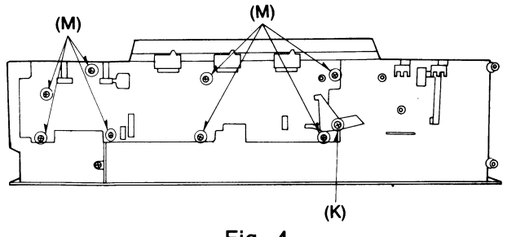


Fig. 4

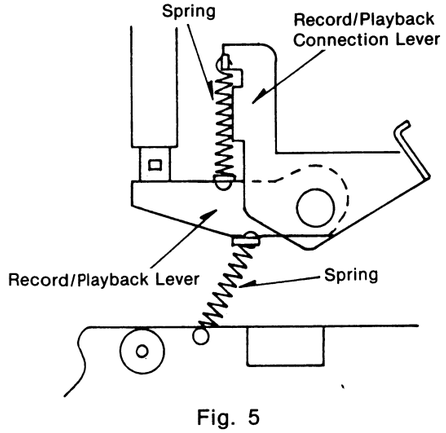


Fig. 5

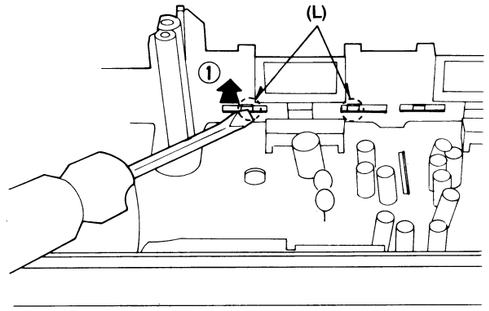


Fig. 6

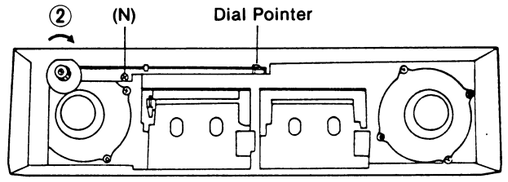


Fig. 7

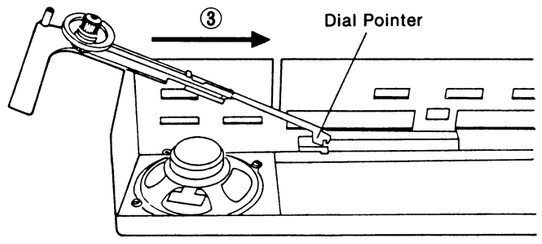


Fig. 8

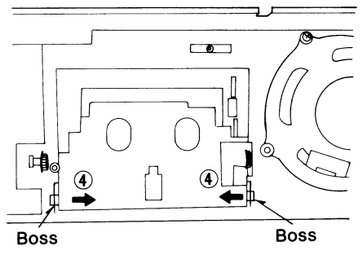


Fig. 9

• Precautions for attachment of front panel (Dial setting point)

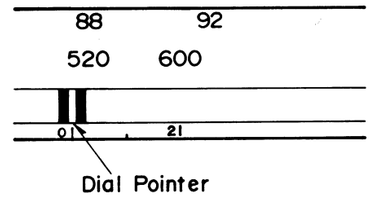


Fig. 10

1. Line up the dial pointer with the position show in the figure.
2. Turn the variable capacitor drum all the way in the direction of arrow ⑥. (See Fig. 2)

• Precautions for removing mechanism buttons

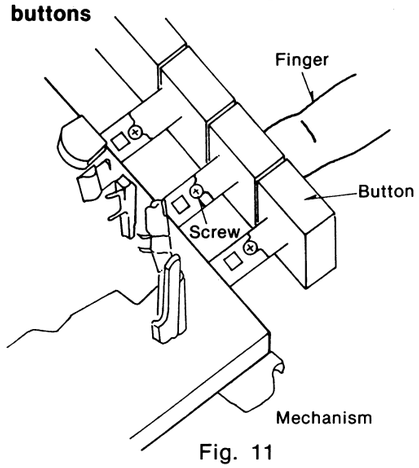


Fig. 11

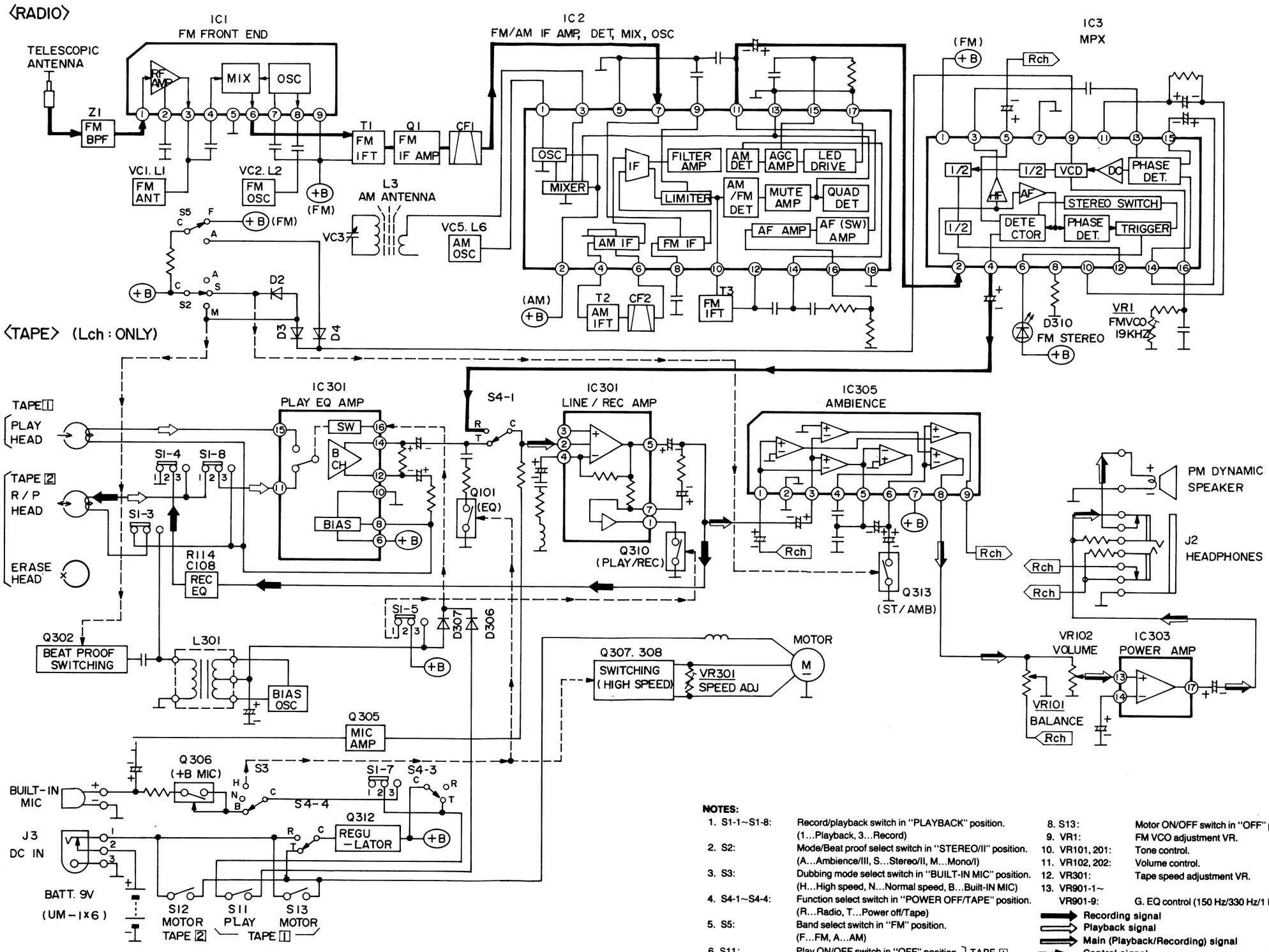
When removing the mechanism buttons, be sure to depress the buttons while turning their respective screws.

Ref. No.	Shown in Fig. — .	To remove — .	Remove — .
1	1	Front Cabinet	Knob ..... (A)×2
2	1		Screw (3×45)mm ..... (B)×8
3	1		Screw (2×8)mm ..... (C)×1
4	1		Press the STOP/EJECT button.
5	2		Socket (CS4) ..... (D)×1
6	2	LED Circuit Board (*1)	Screw (3×10)mm ..... (E)×1
7	2	Mechanism (Tape [1], [2])	Screw (3×10)mm ..... (F)×2
8	3		Socket (CS1, CS2, CS5, CS6) ..... (G)×4
9	3	Intermediate Gear	Screw (3×10)mm ..... (H)×1
10	3	Tuner Circuit Board	Screw (3×10)mm ..... (I)×5
11	3		Socket (CS3) ..... (J)×1
12	4	Record/Playback Lever (*2)	Screw (3×10)mm ..... (K)×1
13	6	Switch Lever	Push the lug in the direction of arrow ① ..... (L)×2 (Do not push with too much force as this may cause the lug to break.)
14	4	Main Circuit Board	Screw (3×10)mm ..... (M)×8
15	7	Dial Chassis	Turn the tuning knob in the direction of arrow ② and move the indication all the way to the right.
16	7		Screw (3×8)mm ..... (N)×1
17	8		Remove the dial chassis with the tuning knob connected and move it in the direction of arrow ③ to remove the dial pointer.
18	9	Cassette Cover	Push the boss in the direction of arrow ④ and pull it off.

(*1) The LED circuit board screws also secure the mechanism in place.
(*2) When this screw is removed, the record/playback lever and record/playback connection lever become separate, so attach them as shown in Fig. 5 in assembly.

D

BLOCK DIAGRAM



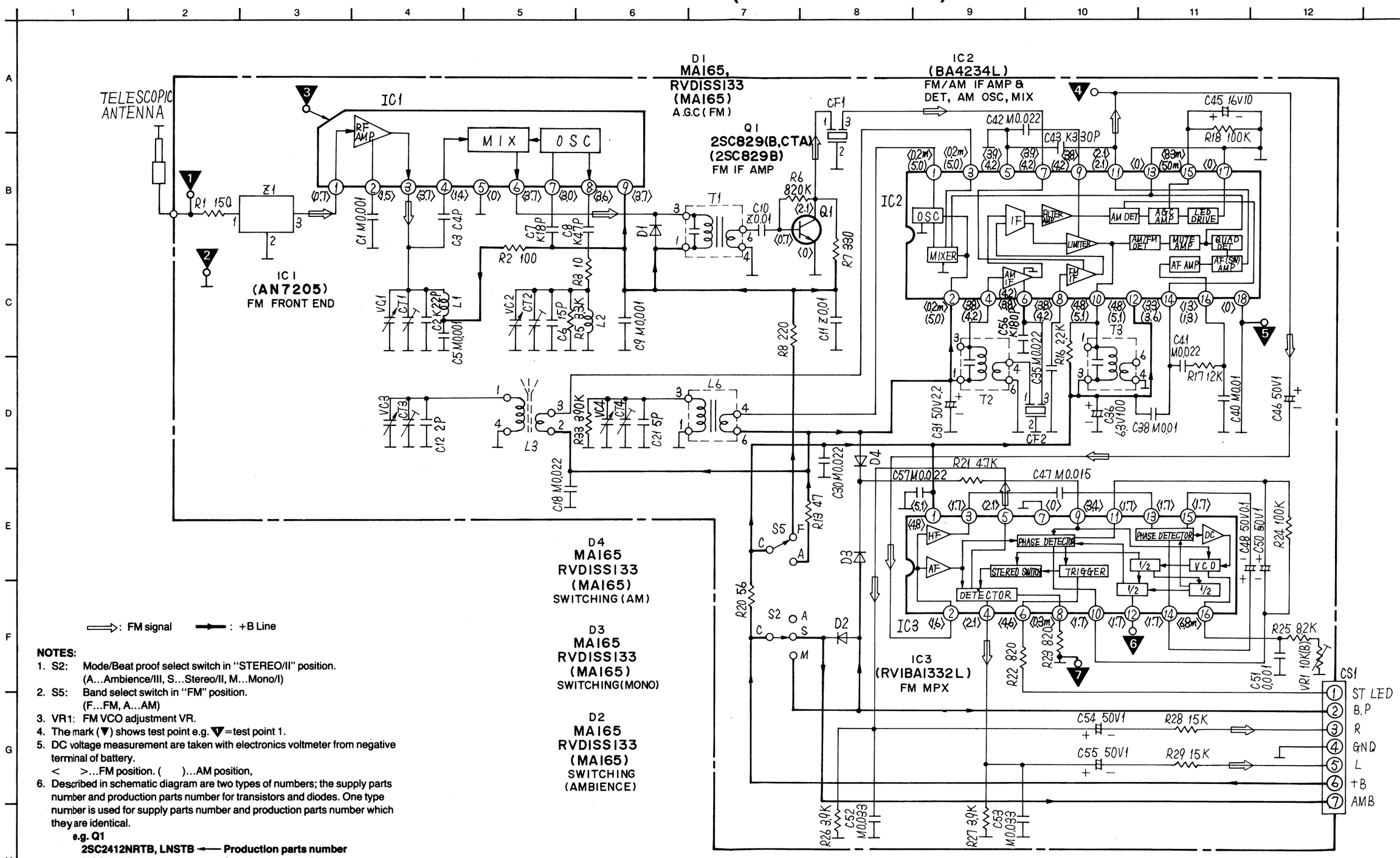
NOTES:

1. S1-1~S1-8: Record/playback switch in "PLAYBACK" position. (1...Playback, 3...Record)
2. S2: Mode/Beat proof select switch in "STEREO/II" position. (A...Ambience/III, S...Stereo/II, M...Mono/I)
3. S3: Dubbing mode select switch in "BUILT-IN MIC" position. (H...High speed, N...Normal speed, B...Built-IN MIC)
4. S4-1~S4-4: Function select switch in "POWER OFF/TAPE" position. (R...Radio, T...Power off/Tape)
5. S5: Band select switch in "FM" position. (F...FM, A...AM)
6. S11: Play ON/OFF switch in "OFF" position.] TAPE 1
7. S12: Motor ON/OFF switch in "OFF" position.] TAPE 2
8. S13: Motor ON/OFF switch in "OFF" position) TAPE 1
9. VR1: FM VCO adjustment VR.
10. VR101, 201: Tone control.
11. VR102, 202: Volume control.
12. VR301: Tape speed adjustment VR.
13. VR901-1~ VR901-9: G. EQ control (150 Hz/330 Hz/1 kHz/3.3 kHz/10 kHz).

Recording signal
Playback signal
Main (Playback/Recording) signal
Control signal
FM signal

▼ Be sure to fold at the (▼) mark so that mark is on the outside.

SCHEMATIC DIAGRAM (for Tuner Section)



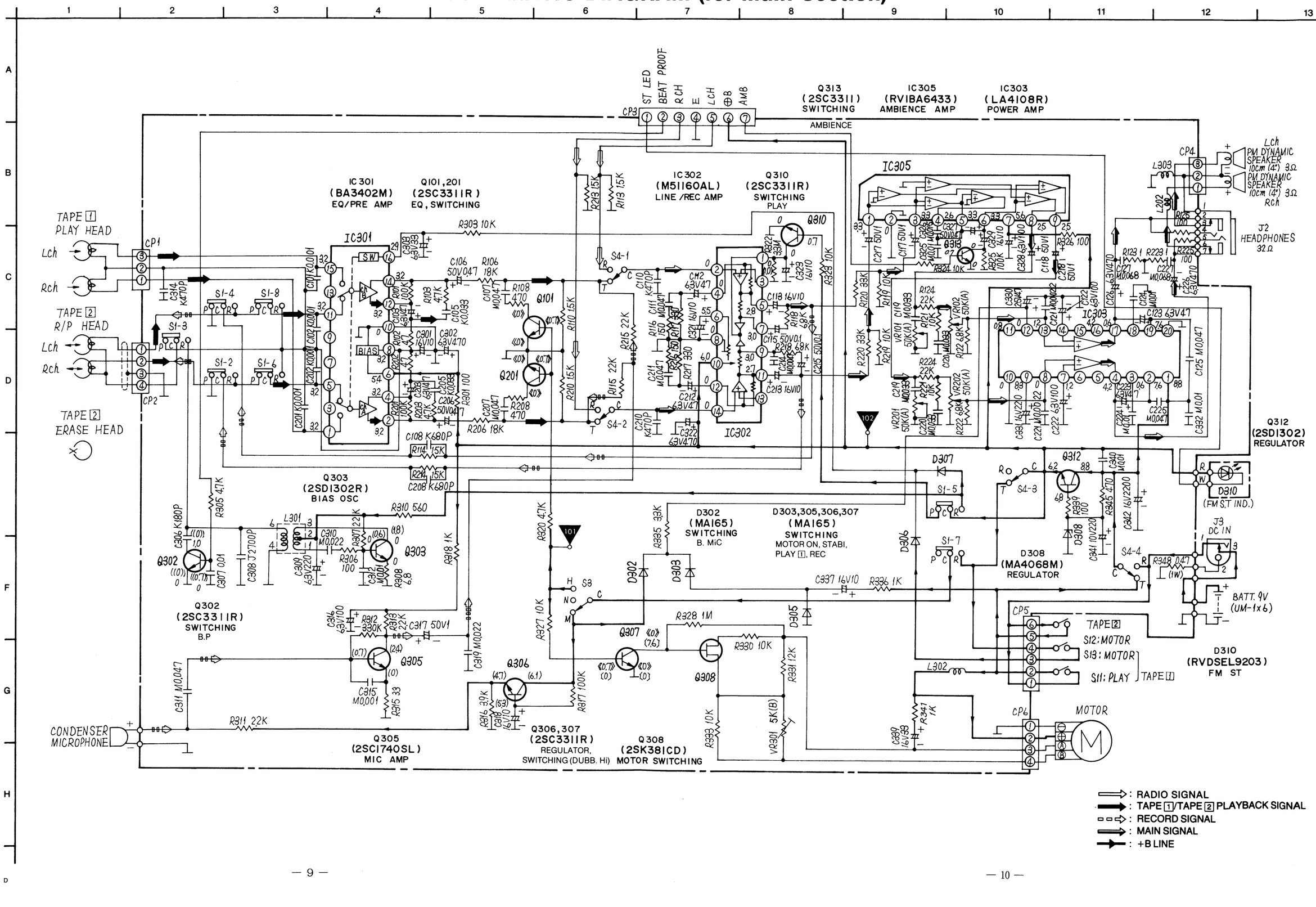
⟹: FM signal ⟶ : +B Line

NOTES:

1. S2: Mode/Beat proof select switch in "STEREO/II" position. (A...Ambience/III, S...Stereo/II, M...Mono/I)
2. S5: Band select switch in "FM" position. (F...FM, A...AM)
3. VR1: FM VCO adjustment VR.
4. The mark (▼) shows test point e.g. ▼1=test point 1.
5. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
   < >...FM position. ( )...AM position,
6. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical.
   e.g. Q1
   2SC2412NRTB, LNSTB ← Production parts number
   (2SC2412) ← Supply parts number
7. The supply parts number is described alone in the replacement parts list.

•This schematic diagram may be modified at any time with the development of new technology.

SCHEMATIC DIAGRAM (for Main Section)



NOTES: (for SCHEMATIC DIAGRAM)

1. S1-1~S1-8: Record/playback switch in "PLAYBACK" position. (P...Playback, R...Record)
2. S3: Dubbing mode select switch in "BUILT-IN MIC" position. (H...High speed, N...Normal speed, M..Built-IN MIC)
3. S4-1~S4-4: Function select switch in "POWER OFF/TAPE" position. (R...Radio, T...Power off/Tape)
4. S11: Play Switch....(TAPE [1])
5. S12, 13: Motor Switch.
6. VR101, 201: Tone control.
7. VR102, 202: Volume control.
8. VR301: Tape speed adjustment VR.
9. The mark (▼) shows test point e.g. ▼=test point 1.
10. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
    No mark...Playback position
    ( )...Recording position,
    (( ))...PB (I) position, ( )...Normal speed dubbing mode,
    (( ))...High speed dubbing mode.
11. Battery current:

No signal	96 mA	
Maximum output		
Radio	747mA	
Tape/Playback	823 mA	
Tape/Recording	130 mA	(Built-IN MIC)
Normal Speed Dubbing	163 mA	

12. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical.
    e.g. Q1
    2SC2412NRTB, LNSTB ← Production parts number
    (2SC2412) ← Supply parts number
4. The supply parts number is described alone in the replacement parts list.

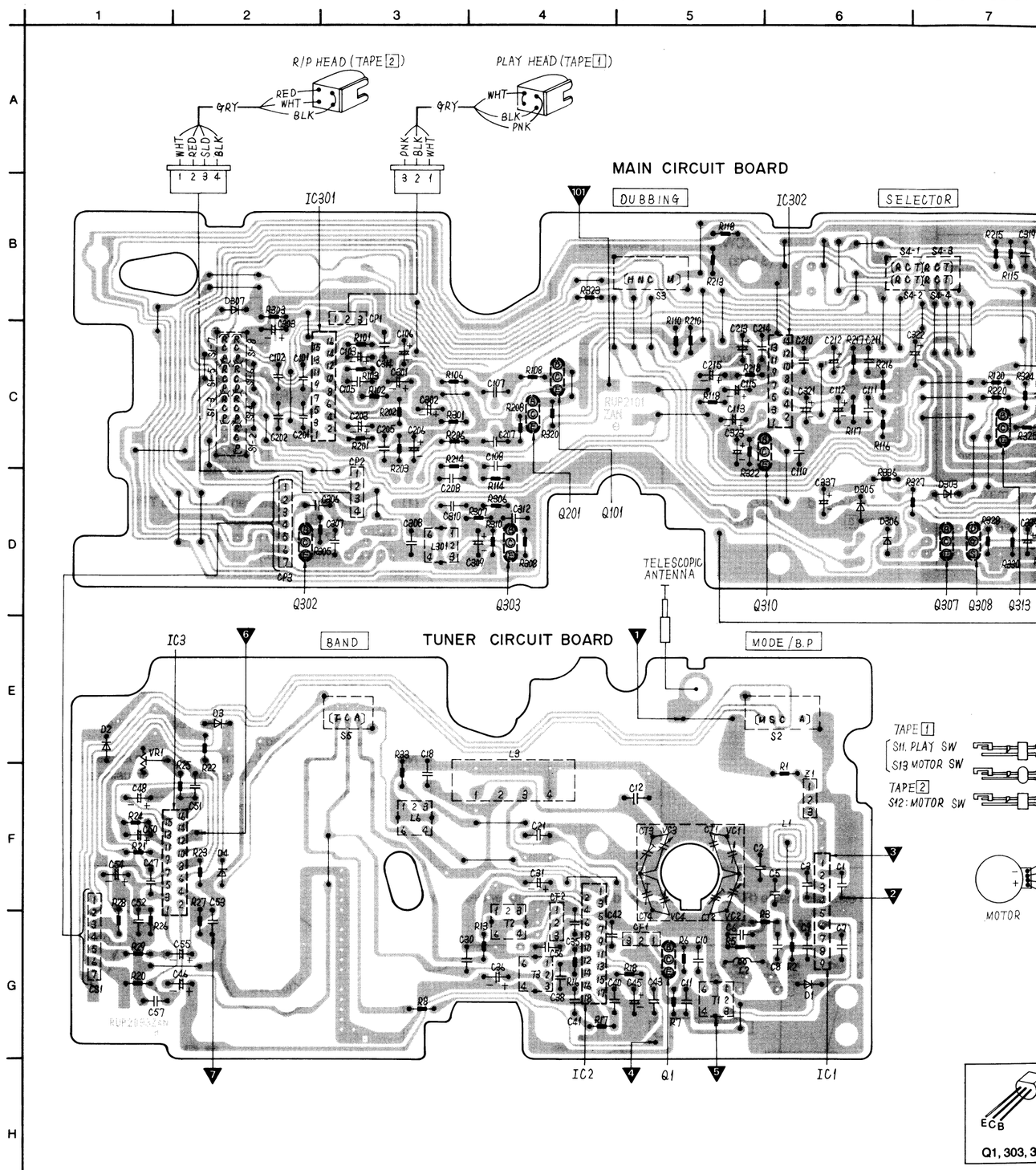
•This schematic diagram may be modified at any time with the development of new technology.

ELECTRICAL PARTS LIST

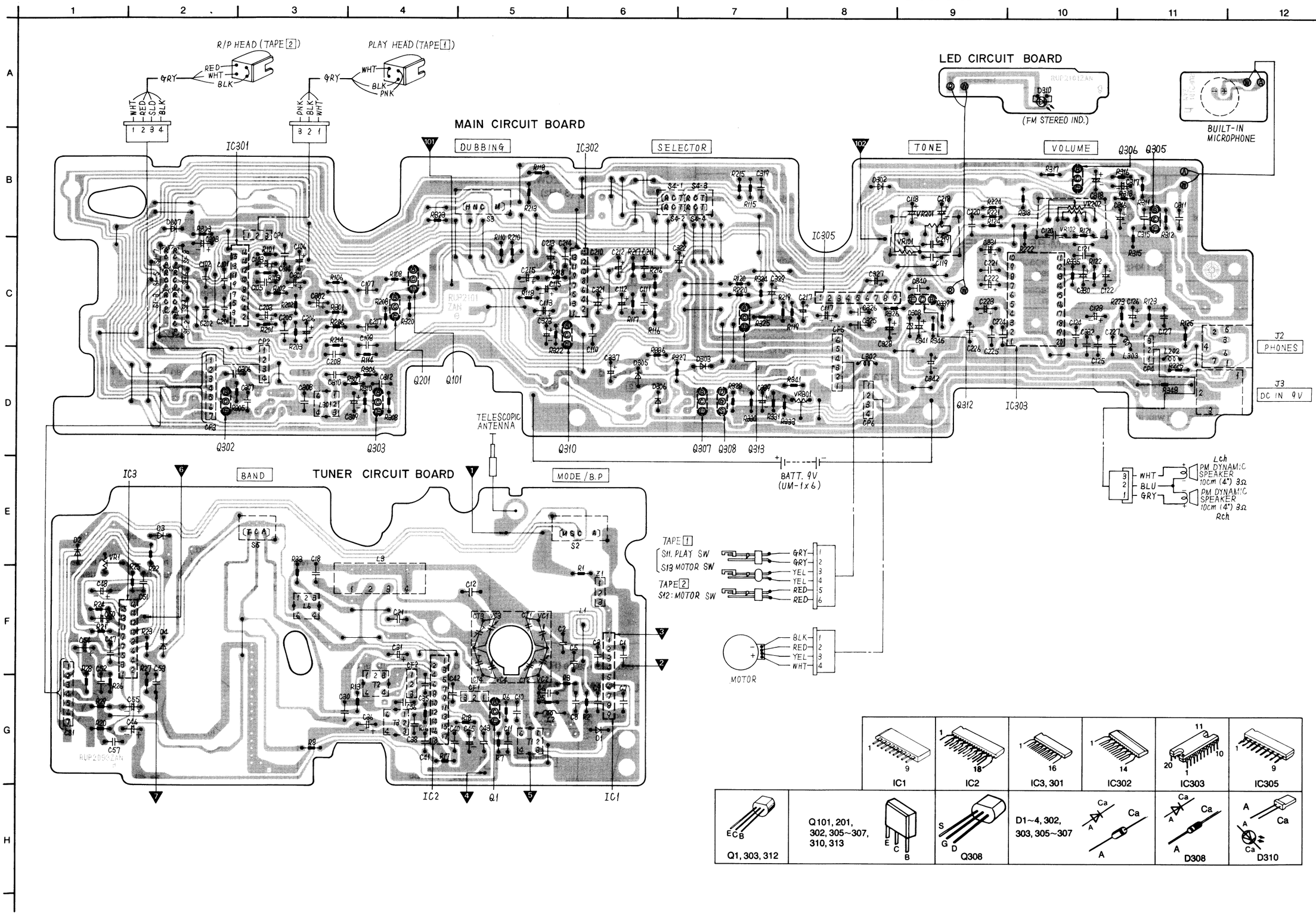
REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
	INTEGRATED CIRCUITS	
IC 1	**AN7205**	IC (FM FRONT END)
IC 2	**BA4234L**	IC (DET, AM OSC, MIX)
IC 3	**RViBA1332L**	IC (FM MPX)
IC 301	**BA3402M**	IC (EQ/PRE AMP)
IC 302	**M51160AL**	IC (LINE/REC AMP)
IC 303	**LA4108R**	IC (POWER AMP)
IC 305	**RViBA6433**	IC (AMB/ENCE CONTROL)
	TRANSISTORS	
Q 1	**2SC829B**	Transistor (FM IF AMP)
Q 101, 201, 302, 306, 307, 310, 313	**2SC3311R**	Transistor (EQ SWITCHING, SWITCHING)
Q 303, 312	**2SD1302R**	Transistor (BIAS OSC, REGULATOR)
Q 305	**2SC1740SLNR**	Transistor (MIC AMP)
Q 308	**2SK381CD**	Transistor (SWITCHING)
	DIODES & RECTIFIERS	
D 1, 2, 3, 4	**MA165**	Diode (SWITCHING)
D 302, 303, 305, 306, 307	**MA165**	Diode (SWITCHING)
D 308	**MA4068M**	Diode (REGULATOR)
D 310	**LN012301PH**	LED (FM ST)
	COILS	
L 2	**RLD4Y53**	Coil, FM Oscillator
L 3	**RLF2C62-0**	Coil, AM Antenna
L 6	**RL02B105**	Coil, MW Oscillator
L 202, 303	**RLQY30S4**	CHOKE
L 301	**RL09B17**	BIAS OSC
L 302	**RLQZD101K**	Choke Coil
	TRANSFORMERS	
T 1, 3	**RLi4B153**	IFT, FM 1st/nd, AM 2nd
T 2	**RLi2B458**	IFT, AM 1st
	VARIABLE CAPACITOR	
VC 1	**RCV4LC2VK**	
	VARIABLE RESISTORS	
VR 1	**EVND4AA00B14**	FM MPX VCO Adjustment VR, 10kϕ
VR 101, 202	**EWCVHAF15A54**	Tone Control, 50kΩ (A)
VR 102, 202	**EWCUHAF10A54**	Volume Control, 50kΩ (A)
VR 301	**EVND4AA00B53**	Tape Speed Adjustment VR, 5kΩ (B)
	CERAMIC FILTERS	
CF 1	**RVF107WDZ**	Ceramic Filter
CF 2	**RVFSFU455B**	Ceramic Filter
	FILTER	
Z 1	**RXABPMB6A**	B.P.F.
	SWITCHES	
S 1	**RSH2H03W**	Leaf Switch (Rec/Play)
S 2	**RSS3A15Z**	Switch (MODE SELECT)
S 3	**RSS3A15Z**	Slide Switch (Dubbing)
S 4	**RSS2D24Y**	Slide Switch (Function Selector)
S 5	**RSS2B57Z**	Switch (BAND SELECT)
S 11 [1]	**RFA42Z**	Leaf Switch (Play) [Tape [1]]
S 12, 13	**RFA49Z**	Leaf Switch (Motor)
	JACKS	
J 2	**RJJD7S2Z**	Jack, Headphone
J 3	**RJJ97Y**	Jack, DC IN

CIRCUIT BOARD AND WIRING CONNE



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



No.	Part Name & Description
0B53	Tape Speed Adjustment VR, 5kΩ (B)

CERAMIC FILTERS

0Z	Ceramic Filter
55B	Ceramic Filter

FILTER

6A	B.P.F.

SWITCHES

V	Leaf Switch (Rec/Play)
	Switch (MODE SELECT)
	Slide Switch (Dubbing)
	Slide Switch (Function Selector)
	Switch (BAND SELECT)
	Leaf Switch (Play) [Tape [1]]
	Leaf Switch (Motor)

JACKS

	Jack, Headphone
	Jack, DC IN

RX-FW17 RX-FW17

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set graphic equalizer to center. 3. Set band switch to AM or FM. 4. Set function selector to radio.	5. Dubbing select switch to normal 6. Set power source voltage to 9 V DC. 7. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/about 600 kHz)	Output meter across voice coil.	T2 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	"	511 kHz	Tuning capacitor fully closed.	"	L6 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	"	1,660 kHz	Tuning capacitor fully open.	"	CT4 (AM OSC Trimmer)	"
(4)	AM	"	550 kHz	Tune to signal.	"	(*1)L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	"	1,500 kHz	"	"	CT3 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).

(*1) Cement antenna bobbin with wax after completing alignment.

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTIONS	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001 µF to test point ▼6. Negative side to test point ▼7.	10.7 MHz (SWP.)	Point of non-interference. (on/about 90 MHz)	Connect vert. amp. of scope to test point ▼4. Negative side to test point ▼5.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2).
(2)	FM	"	"	"	"	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3).
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼7.	86.2 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L2 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2 MHz	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
(5)	FM		106 MHz	"	"	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(5).

(*2) Three output responses will be present; proper tuning is the center frequency.

■ SEPARATION ALIGNMENT

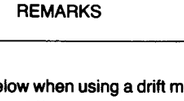
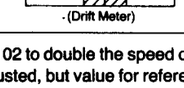
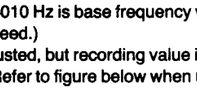
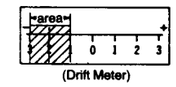
ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98 MHz, 60 dB (CW) Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼7.	▼6 ...(+) ▼7 ...(−)	VR1	19 kHz	Adjust VR1, for 19 kHz (±100 Hz) reading on electronics counter.

■ TAPE ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8 kHz, −20 dB)	SP OUT (AC voltmeter & Oscilloscope)	Maximum output.	Azimuth screw	Playback mode Mode switch→STEREO (Refer to Fig. 4)

■ TAPE SPEED ADJUSTMENT

Tape [2] is driven by the tape [1] motor, so there is no need to adjust the tape speed for tape [2]. (The tape speeds of tape [1] and tape [2] differ due to the diameter of the flywheels. The flywheel for tape [1] has 4 molding marks, and that for tape [2] has 3. (See Figs. 5 and 6.)

ITEM	INPUT	MEASUREMENT POINT	ADJUSTMENT POINT	REMARKS
Tape speed adjustment for normal speed Tape [1].	QZZCWAT (3 kHz)	Headphones jack	VR301	3010±30 Hz (Refer to the figure below when using a drift meter.)  (Drift Meter)
High speed Tape [1]	QZZCWC (1.5 kHz)	Headphones jack	–	Short TP101 and TP102 to double the speed of tape [1]. Note: Cannot be adjusted, but value for reference is about 2955±30 Hz. (Refer to figure below when using a drift meter.)  (Drift Meter)
Normal speed Tape [2]	QZZCWAT (3 kHz)	Headphones jack	–	(1) Remove the short between TP101 and TP102 to return tape [2] to normal speed. (2) About 2997 Hz (3010 Hz is base frequency when tape [1] is at normal speed.) Note: Cannot be adjusted, but recording value is used as a reference. (Refer to figure below when using a drift meter.)  (Drift Meter)
High speed Tape [2]	QZZCWC (1.5 kHz)	Headphones jack	–	(1) Short TP101 and TP102 to double the speed of tape [2]. (2) About 2938 Hz (2955 Hz is base frequency when tape [1] is at normal speed.) Note: Cannot be adjusted, but recording value is used as a reference. (Refer to figure below when using a drift meter.)  (Drift Meter)

Note: An extension cable (RZZ0418) can be used to connect the tuner circuit board.

■ ADJUSTMENT POINT

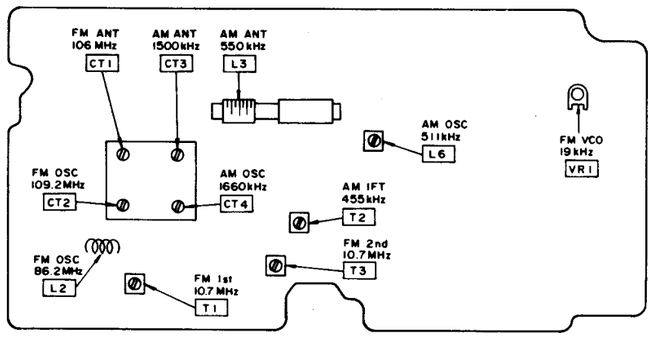


Fig. 1

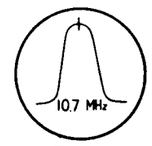


Fig. 2

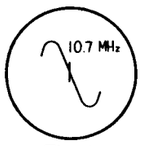


Fig. 3

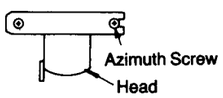
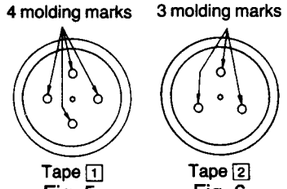


Fig. 4

■ FLYWHEEL



Tape [1] Fig. 5

Tape [2] Fig. 6

■ MECHANISM PA

REPLACEMENT PARTS

The color name in parentheses (list is the color of that part.

Notes:

[1] ... TAPE-1 (PLAY DE

[2] ... TAPE-2 (REC/PLA

Ref. No.	Part No.	
		MECHANIC
M 1	RFU68Z	Be
M 2	RFY541Z	Le
M 3 [2]	RFY579Z	Le
M 4 [2]	RFY542Z	Le
M 5 [2]	RFY543Z	Le
M 6 [2]	RFY544Z	Le
M 7 [2]	RFY545Z	Le
M 8 [2]	RFY690Z	Le
M 9	RFY607Z	Le
M 10	RFY548Z	Le
M 11	RFG86Z	Ca
M 12	RFS459Z	Sp
M 13	RFS536Z	St
M 14	RFS561Z	Sp
M 15 [2]	RFU83Z	St
M 16 [2]	RFS463Z	Sp
M 17 [2]	RFS530Z	Sp
		Le
M 18 [2]	RFS562Z	Sp
M 19	RFS466Z	Sp
M 20	RFY549Z	Le
M 21	RFS596Z	Sp
M 24	RFS462Z	Sp
M 26 [2]	RFE227Z	Ho
M 27	RFU39Z	Ho
M 28	RFY394Z	De
M 30 [2]	RFS531Z	Sp
M 31 [2]	RFY391Z	Ar
M 32	XSN3+6	Sc
		Ar
M 33	RFE245Z	Sc
M 34	RFS447Z	Sp
M 35 [2]	RFR29Z	Pl
M 36 [2]	RFS448Z	Sp
M 39	RFQ42Z	Ri
M 40	RFS532Z	Sp
M 41	RFE281Z	Sc
M 42	RFB62Z	Be
M 43 [1]	RFF39Z	Fl
M 44 [2]	RFF40Z	Fl
M 45	RFU79Z	Re
M 46	RFY652Z	Le
		As
M 47	RFG61Z	Gu
M 48 [2]	RFS450Z	Sp
M 49	RFG62Z	Gu
M 50	RFS537Z	Sp
		(T
M 51	RFJ50Z	Re
		Ta
M 52	RFJ44Z	Re
		Ta
M 53 [2]	SMQ4778	Le
M 54	RFS563Z	Sp
		(S
M 55	RFD228Z	Br
M 56	RFD27Z	Cu
M 57	SMQ4918	Sc
M 59	RFB63Z	Be
M 62	RFY581Z	Le
M 63	RFS564Z	Sp
		Le

er than

REMARKS

Adjust for maximum output.

Adjust for maximum output.

"

Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.

Adjust for maximum output. Repeat steps (2)~(5).

REMARKS

(*2) Adjust for maximum output.

"

(*2) Adjust for maximum output. Repeat steps (3)~(5).

REMARKS

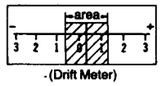
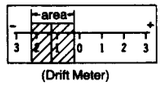
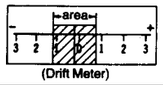
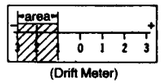
st VR1, for 19 kHz
0 Hz) reading on
ronics counter.

■ TAPE ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8 kHz, −20 dB)	SP OUT (AC voltmeter & Oscilloscope)	Maximum output.	Azimuth screw	Playback mode Mode switch→STEREO (Refer to Fig. 4)

■ TAPE SPEED ADJUSTMENT

Tape [2] is driven by the tape [1] motor, so there is no need to adjust the tape speed for tape [2]. (The tape speeds of tape [1] and tape [2] differ due to the diameter of the flywheels. The flywheel for tape [1] has 4 molding marks, and that for tape [2] has 3. (See Figs. 5 and 6.)

ITEM	INPUT	MEASUREMENT POINT	ADJUSTMENT POINT	REMARKS
Tape speed adjustment for normal speed Tape [1].	QZZCWAT (3 kHz)	Headphones jack	VR301	3010±30 Hz (Refer to the figure below when using a drift meter.)  (Drift Meter)
High speed Tape [1]	QZZCWC (1.5 kHz)	Headphones jack	–	Short TP101 and TP102 to double the speed of tape [1]. Note: Cannot be adjusted, but value for reference is about 2955±30 Hz. (Refer to figure below when using a drift meter.)  (Drift Meter)
Normal speed Tape [2]	QZZCWAT (3 kHz)	Headphones jack	–	(1) Remove the short between TP101 and TP102 to return tape [2] to normal speed. (2) About 2997 Hz (3010 Hz is base frequency when tape [1] is at normal speed.) Note: Cannot be adjusted, but recording value is used as a reference. (Refer to figure below when using a drift meter.)  (Drift Meter)
High speed Tape [2]	QZZCWC (1.5 kHz)	Headphones jack	–	(1) Short TP101 and TP102 to double the speed of tape [2]. (2) About 2938 Hz (2955 Hz is base frequency when tape [1] is at normal speed.) Note: Cannot be adjusted, but recording value is used as a reference. (Refer to figure below when using a drift meter.)  (Drift Meter)

Note: An extension cable (RZZ0418) can be used to connect the tuner circuit board.

■ ADJUSTMENT POINT

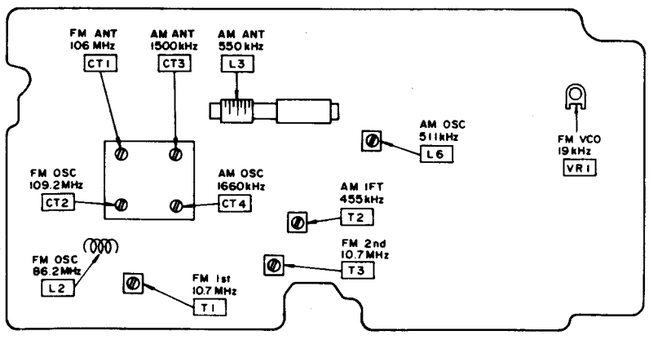

FM ANT 106 MHz CT1
AM ANT 1500kHz CT3
AM ANT 550 kHz L3
AM OSC 511kHz L6
FM VCO 19kHz VR1
FM OSC 109.2MHz CT2
AM OSC 1660kHz CT4
AM IFT 455kHz T2
FM 2nd 10.7MHz T3
FM OSC 86.2MHz L2
FM 1st 10.7MHz T1

Fig. 1

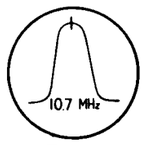


Fig. 2

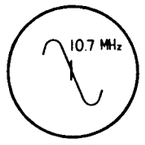


Fig. 3

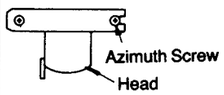


Fig. 4

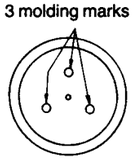
■ FLYWHEEL

4 molding marks

Tape [1]

Fig. 5

3 molding marks



Tape [2]

Fig. 6

■ MECHANISM PARTS LIST

REPLACEMENT PARTS LIST

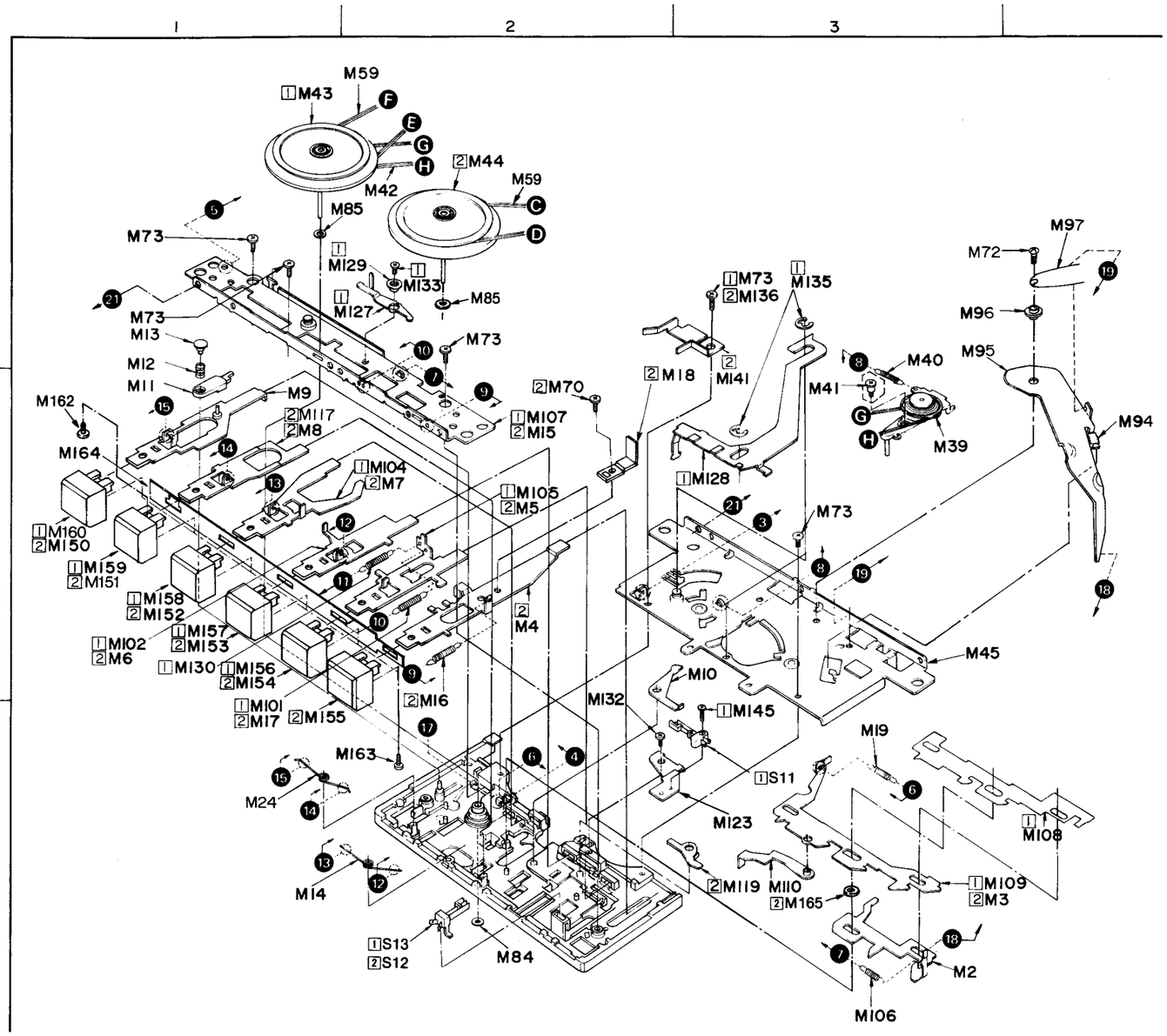
The color name in parentheses ( ) in the parts list is the color of that part.

Notes:

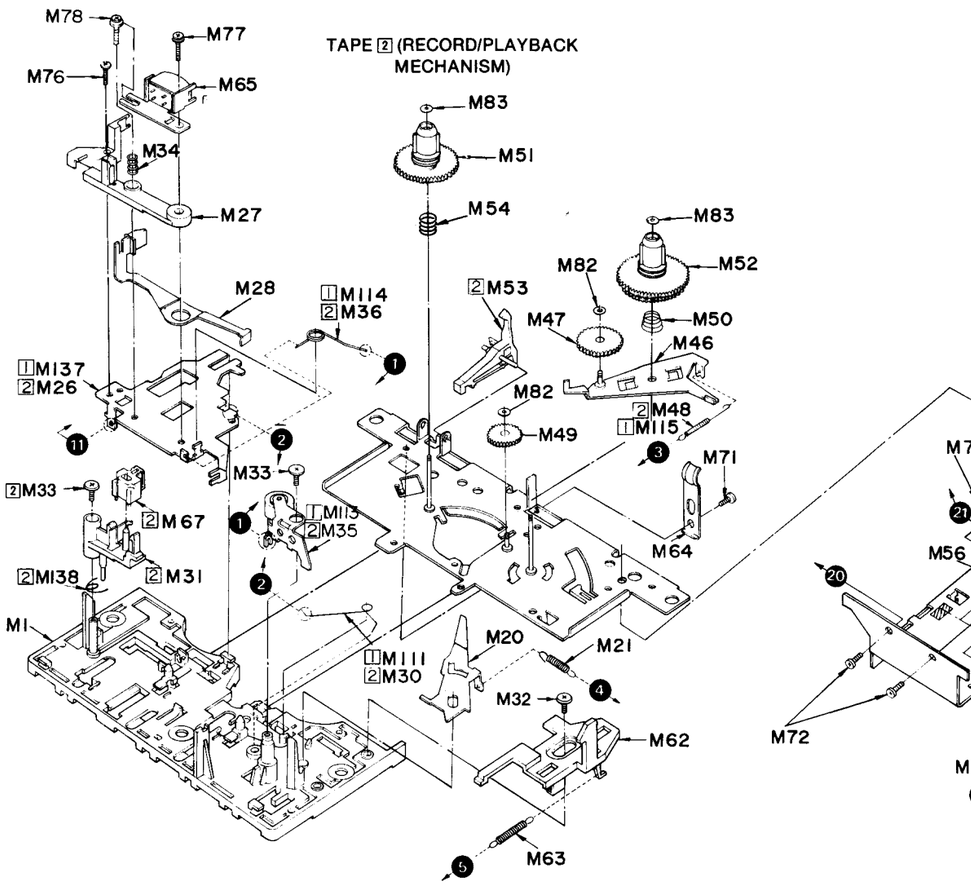
[1] ... TAPE-1 (PLAY DECK)
[2] ... TAPE-2 (REC/PLAY DECK)
[K]... Black Type
[R]... Red Type

Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M 1	RFU68Z	Button Base Ass'y
M 2	RFY541Z	Lever, Switch Actuator
M 3 [2]	RFY579Z	Lever, Push Button Actuator
M 4 [2]	RFY542Z	Lever, Record
M 5 [2]	RFY543Z	Lever, Playback
M 6 [2]	RFY544Z	Lever, Rewind
M 7 [2]	RFY545Z	Lever, Fast Forward
M 8 [2]	RFY690Z	Lever, Stop/Eject
M 9	RFY607Z	Lever, Pause
M 10	RFY548Z	Lever, Rewind Actuator
M 11	RFG86Z	Cam, Pause
M 12	RFS459Z	Spring, Pause Cam
M 13	RFS536Z	Stopper, Pause Spring
M 14	RFS561Z	Spring, Button Lever (B)
M 15 [2]	RFU83Z	Sub Chassis Ass'y
M 16 [2]	RFS463Z	Spring, Button Lever (A)
M 17 [2]	RFS530Z	Spring, Playback Button Lever
M 18 [2]	RFS562Z	Spring, Record Lever
M 19	RFS466Z	Spring, Push Button Actuator
M 20	RFY549Z	Lever, Auto Stop Actuator
M 21	RFS596Z	Spring, Auto Stop Actuator
M 24	RFS462Z	Spring, Button Lever (C)
M 26 [2]	RFE227Z	Head Panel
M 27	RFU39Z	Head Base
M 28	RFY394Z	Detection Lever Ass'y
M 30 [2]	RFS531Z	Spring, Head Panel
M 31 [2]	RFY391Z	Arm, Erase Head
M 32	XSN3+6	Screw ⊕3×6 (Erase Head Arm, etc. M'tg)
M 33	RFE245Z	Screw (Pinch Roller M'tg)
M 34	RFS447Z	Spring, Azimuth Adj.
M 35 [2]	RFR29Z	Pinch Roller Ass'y
M 36 [2]	RFS448Z	Spring, Pinch Roller Ass'y
M 39	RFQ42Z	RF Pulley Arm Ass'y
M 40	RFS532Z	Spring, RF Pulley Arm
M 41	RFE281Z	Screw (RF Pulley Arm M'tg)
M 42	RFB62Z	Belt, RF
M 43 [1]	RFF39Z	Flywheel Ass'y
M 44 [2]	RFF40Z	Flywheel Ass'y
M 45	RFU79Z	Reel Table Base Ass'y
M 46	RFY652Z	Lever, Takeup Reel Table Ass'y
M 47	RFG61Z	Gear, Takeup Reel Rollen
M 48 [2]	RFS450Z	Spring, Takeup Reel Table
M 49	RFG62Z	Gear, Fast Forward
M 50	RFS537Z	Spring, Back Tension (Tapeup Side)
M 51	RFJ50Z	Reel Table, Supply Reel Table Ass'y
M 52	RFJ44Z	Reel Table, Takeup Reel Table Ass'y
M 53 [2]	SMQ4778	Lever, Erase Safety
M 54	RFS563Z	Spring, Back Tension (Supply Side)
M 55	RFD228Z	Bracket, Motor
M 56	RFD27Z	Cushion, Motor
M 57	SMQ4918	Screw (Motor M'tg)
M 59	RFB63Z	Belt, Main
M 62	RFY581Z	Lever, Stop/Eject Slide
M 63	RFS564Z	Spring, Stop/Eject Slide Lever
M 64	RFS534Z	Spring, Cassette Tape Holder
M 65 [1]	RJH4C09GY	Head, Playback
M 65 [2]	RJH4C09GX	R/P Head
M 67 [2]	RJH2C12XZ	Head, Erase
M 68	RFM69Z	Motor Ass'y (with Pulley)
M 70 [2]	RFE229Z	Screw ⊕2×3 (Record Lever M'tg)
M 71	XTN2+3B	Screw ⊕2×3 (Cassette Tape Holder M'tg)
M 72	XTN2+4B	Screw ⊕2×4 (Motor Bracket, Leaf Switch M'tg)
M 73	XSB2+4	Screw ⊕2×4 (Sub Chassis, Reel Table Base M'tg)
M 75	XSN2+6	Screw ⊕2×6 (Head Base M'tg)
M 76	RFE98Z	Screw ⊕2×6 (Head Base M'tg)
M 77	XSN2+7	Screw ⊕2×7 (Record/Playback M'tg)
M 78	RFE230Z	Screw ⊕2×7 (Azimuth Adj.)
M 82	RFN143Z	Washer (Fast Forward Gear, Takeup Roller)
M 83	RFN142Z	Washer (Supply & Takeup Reel Table)
M 84	RFN123Z	Washer (Flywheel M'tg)
M 85	RFN153Z	Washer (Flywheel)
M 94	RFI40Z	Rubber, Brake
M 95	RFY601Z	Lever, Brake
M 96	RFX138Z	Collar, Brake Lever
M 97	RFS579Z	Spring, Brake Lever
M 101 [1]	RFS566Z	Spring, Playback Button Lever
M 102 [1]	RFY650Z	Lever, Rewind
M 104 [1]	RFY651Z	Lever, Fast Forward
M 105 [1]	RFY649Z	Lever, Playback
M 106	RFS567Z	Spring, Switch Actuator Lever
M 107 [1]	RFU70Z	Sub Chassis Ass'y
M 108 [1]	RFY622Z	RF Actuator
M 109 [1]	RFY592Z	Lever, Push Button Actuator
M 110 [1]	RFY591Z	Lever, E Kick
M 111 [1]	RFS568Z	Spring, Head Panel
M 113 [1]	RFR35Z	Pinch Roller Ass'y
M 114 [1]	RFS569Z	Spring, Pinch Roller Ass'y
M 115 [1]	RFS570Z	Spring, Takeup Reel Table
M 117 [1]	RFY546Z	Lever, Stop/Eject
M 119 [2]	RFX101Z	PR Stopper
M 123	RFD230Z	Bracket, Switch
M 127 [1]	RFY589Z	Lever, RC
M 128 [1]	RFY573Z	Lever, RC Slide
M 129 [1]	RFX130Z	Coller, RC Lever
M 130 [1]	RFS572Z	Spring, RC
M 132 [1]	RFE221Z	Screw ⊕2×5 (Switch Bracket M'tg)
M 133 [1]	XQS2+25	Screw ⊕2×25 (RC Lever M'tg)
M 135 [1]	XUC2FT	Stop Ring (RC Slide Lever M'tg)
M 136 [1]	RFE222Z	Screw (Pause Prevention Bracket M'tg)
M 137 [1]	RFU72Z	Head Panel
M 138 [2]	RFS535Z	Spring, Magnet Arm
M 141 [2]	RFD232Z	Bracket, Pause Prevention
M 142	RFI39Z	Mat-A
M 143	RFI35Z	Mat-B
M 145	RFE102Z	Screw (Leaf Switch M'tg)
M 146	XQS17+35	Screw ⊕1.7×35 (RF Switch M'tg)
M 150 [2][K]	RBC890Z	Button, Pause (Gray)
M 150 [2][R]	RBC890Z1	Button, Pause (Black) [For Canada.]
M 151 [2][K]	RBC891Z	Button, Stop/Eject (Gray)
M 151 [2][R]	RBC891Z1	Button, Stop/Eject (Black) [For Canada.]
M 152 [2][K]	RBC892Z	Button, Fast Forward (Gray)
M 152 [2][R]	RBC892Z1	Button, Fast Forward (Black) [For Canada.]
M 153 [2][K]	RBC893Z	Button, Rewind (Gray)
M 153 [2][R]	RBC893Z1	Button, Rewind (Black) [For Canada.]
M 154 [2][K]	RBC894Z	Button, Playback (Gray)
M 154 [2][R]	RBC894Z1	Button, Playback (Black) [For Canada.]
M 155 [2][K]	RBC895Z	Button, Record (Gray)
M 155 [2][R]	RBC895Z1	Button, Record (Black) [For Canada.]
M 156 [1][K]	RBC896Z	Button, Playback (Gray)
M 156 [1][R]	RBC896Z1	Button, Playback (Black) [For Canada.]
M 157 [1][K]	RBC897Z	Button, REW/FF (Gray)
M 157 [1][R]	RBC897Z1	Button, REW/FF (Black) [For Canada.]
M 158 [1][K]	RBC898Z	Button, FF/CUE (Gray)
M 158 [1][R]	RBC898Z1	Button, FF/CUE (Black) [For Canada.]
M 159 [1][K]	RBC899Z	Button, Stop/Eject (Gray)
M 159 [1][R]	RBC899Z1	Button, Stop/Eject (Black) [For Canada.]
M 160 [1][K]	RBC900Z	Button, Pause (Gray)
M 160 [1][R]	RBC900Z1	Button, Pause (Black) [For Canada.]
M 162	RHE5112Z	Screw (Mechanism Button M'tg)
M 163	RHE5111Z	Screw (Mechanism Button M'tg)
M 164	RHR3070Z	Cover Plate (Mechanism Button)
M 165 [2]	RFN167Z	Washer (Button Actuator Lever M'tg)

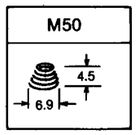
MECHANISM PARTS LOCATION

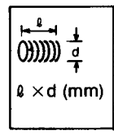


1~50	13 12 11 6 9 8 7 17 24 14 12 13 16 44 15 5 4 18 41 40 3 2 43 42 10 19 39 45
51~100	73 73 59 85 85 73 85 84 73 73 72 97 94 70 59 96 95
101~	162 164 150 151 152 157 130 117 156 101 162 129 133 107 105 132 128 141 136 135 109 108 160 159 158 102 153 134 104 154 155 163 127 145 123 119 110 165 106



1~50	1 33 26 34 31 27 28 33 36 35 30 20 32 47 49 21 46 48 50
51~100	78 76 67 77 65 83 51 54 53 82 63 82 83 52 62 46 71 64 72 72 56 5
101~	137 138 114 113 111 115 142

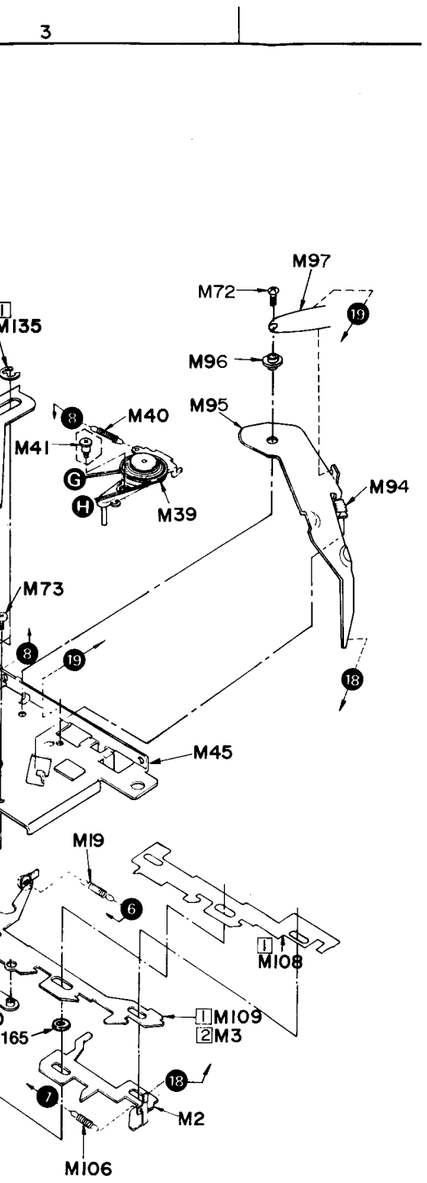
M50


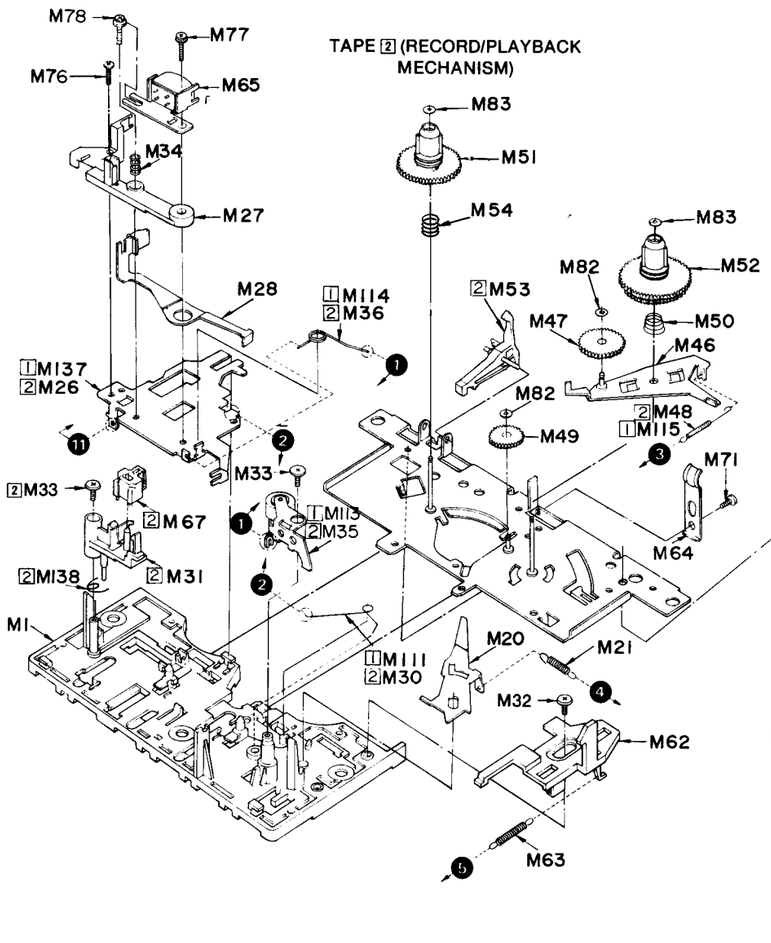


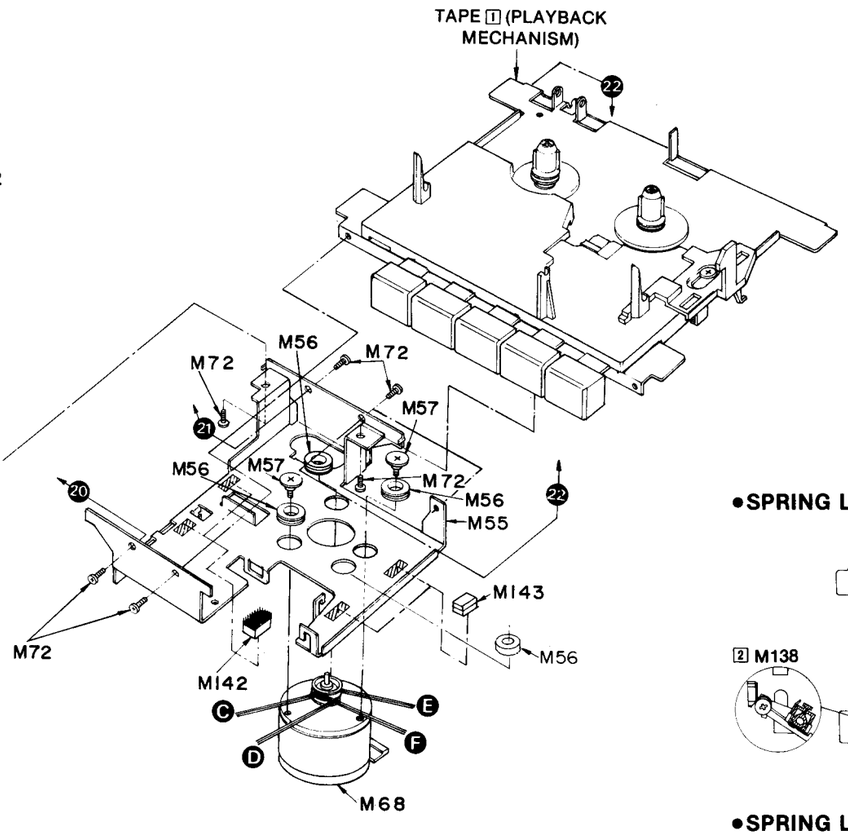
ϕ ×d (mm)	M34	M54
	4.7×3.7	6.5×6

Ref NO.	M12	M14	M16	M17	M19	M21	M24	M30	M36	M40	M48	M63	M97	M101	M106	M111	M114
D, L	5.1 x 3.2		19.8 x 2.4	8.7×2.6	10.6 x 2.2	8.3 x 2.2				9.9 x 2.2	9.8 x 2.2	18.4 x 2		14.9 x 2.7	9.8 x 2.3		
ϕ1, ϕ2		10.5 x 10.5					10 x 10	5 x 18	4 x 17				25.7×25.7			20.9×5.9	18.5×6.6

MECHANISM PARTS LOCATION







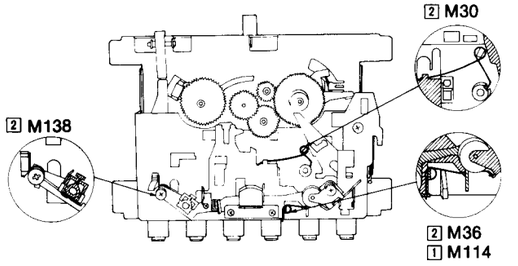
NOTES:

1 ... TAPE 1 (PLAY DECK)
2 ... TAPE 2 (REC/PLAY DECK)

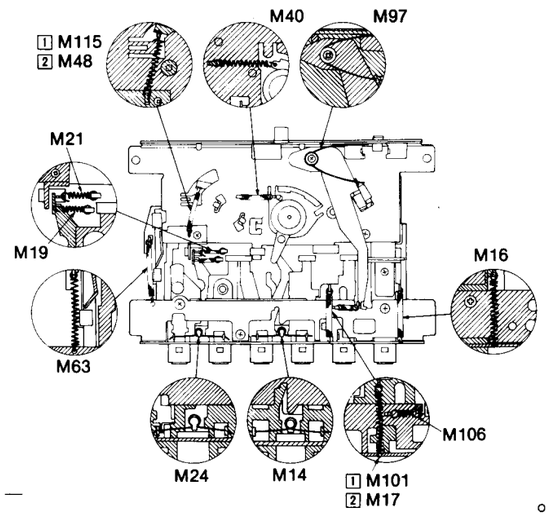
Specifications

Playback torque	47~55g·cm
Fast Forward torque	55~120g·cm
Rewind torque	55~120g·cm
Pressure of pressure roller	300~400g
Wow and flutter	Less than 0.2% (WRMS)

●SPRING LOCATION (Top View)



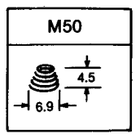
●SPRING LOCATION (Rear View)



1~50	1 33 26 34 31 27 28 33 36 35 30 20 32 47 49 21 46 48 50
51~100	78 76 67 77 65 83 51 54 53 82 63 82 83 52 62 46 71 64 72 72 56 57 72 68 57 72 56 55 56
101~	137 138 114 113 111 115 142 143

	40 3 2
	19 39 45
	72 97 94
	96 95
	109 108
110 165	106

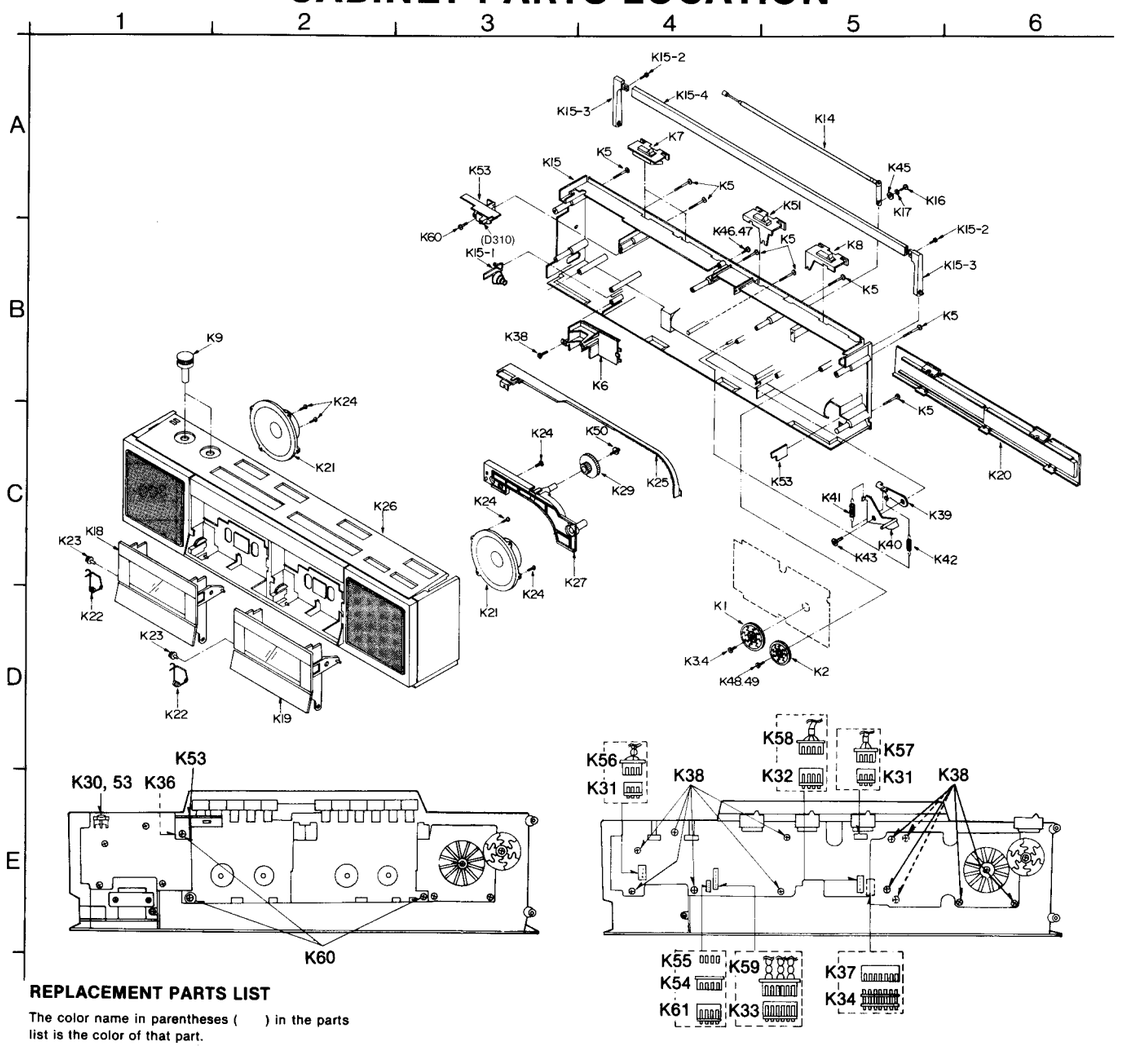
M50



ℓ × d (mm)	M34	M54
	4.7×3.7	6.5×6

	M24	M30	M36	M40	M48	M63	M97	M101	M106	M111	M114	M115	M130	M138
2				9.9 x 2.2	9.8 x 2.2	18.4 x 2		14.9 x 2.7	9.8 x 2.3			14.5 x 2.2	15.5 x 2.7	
	10 x 10	5 x 18	4 x 17				25.7×25.7			20.9×5.9	18.5×6.6			8 x 6

CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

The color name in parentheses ( ) in the parts list is the color of that part.

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Notes:
[K]..... Black
[R]..... Red

Ref. No.	Part No.	Part Name & Description
		CABINET PARTS
K 1	**RDG5845Z**	Dial Drum
K 2	**RDG5834Z**	Gear, Halfway
K 3	**XSN26 + 6**	Screw ⊕2.6×6 (Drum Gear M'tg)
K 4	**XWA26B**	Washer, 2.6ϕ (Drum Gear)
K 5	**XTN3 + 45G**	Screw ⊕3×45 (Cabinet M'tg)
K 6	**RKE535Z**	Holder, Battery
K 7 [K]	**RBD386Z**	Knob, Function•Dubbing Mode Selector (Gray)
K 7 [R]	**RBD386Z1**	Knob, Function•Dubbing Mode Selector (Black) [For Canada.]
K 8 [K]	**RBD384Z**	Knob, Mode/B.P (Gray)
K 8 [R]	**RBD384Z1**	Knob, Mode/B.P (Black) [For Canada.]
K 9 [K]	**RBN729Y**	Knob, Balance Control (Gray)
K 9 [R]	**RBN729Y1**	Knob, Balance Control (Black) [For Canada.]
K 14	**XEARR225CAY**	Telescopic Antenna
K 15 [K]	**RYFXFW17M**	Rear Cabinet Ass'y (Black)
K 15 [R]	**RYFXFW17MC2**	Rear Cabinet Ass'y (Red) [For Canada.]
K 15-1	**RJC50002Z**	Terminal, Battery (–)
K 15-2	**XTC3 + 8CFN**	Screw ⊕3×8 (Handle M'tg)
K 15-3 [K]	**RKX334Y**	Arm, Handle (Black)
K 15-3 [R]	**RKX334Y4**	Arm, Handle (Red) [For Canada.]
K 15-4 [K]	**RKX352Z**	Handle (Black)
K 15-4 [R]	**RKX352Z4**	Handle (Red) [For Canada.]
K 16	**XSN3 + 8S**	Screw ⊕3×8 (Telescopic Antenna M'tg)
K 17	**XWA3B**	Washer ϕ3 (Telescopic Antenna)
K 18 [1][K]	**RYQ1XFW17M**	Cassette Lid Ass'y (Black) (Tape [1])
K 18 [1][R]	**RYQ1XFW17MC**	Cassette Lid Ass'y (Red) (Tape [1]) [For Canada.]
K 19 [2][K]	**RYQ2XFW17M**	Cassette Lid Ass'y (Black) (Tape [2])
K 19 [2][R]	**RYQ2XFW17MC**	Cassette Lid Ass'y (Red) (Tape [2]) [For Canada.]
K 20 [K]	**RKK317Z**	Battery Cover (Black)
K 20 [R]	**RKK317Z2**	Battery Cover (Red) [For Canada.]
K 21	**RAS10P22Z**	Speaker
K 22	**RUS660Z**	Spring, (Kick)
K 23	**RDG5782Z**	Gear, Dumper
K 24	**XTV3 + 8G**	Screw ⊕3×8 (Speaker M'tg)
K 25	**RDP312Z**	Pointer (White)
K 26 [K]	**RYMXFW17M**	Front Cabinet Ass'y (Black)
K 26 [R]	**RYMXFW17MC**	Front Cabinet Ass'y (Red) [For Canada.]
K 27	**RUA688Z**	Dial Chassis
K 29 [K]	**RBT254Y**	Knob, Tuning (Gray)
K 29 [R]	**RBT254Y1**	Knob, Tuning (Black) [For Canada.]
K 30	**RJM165Z**	Built-in Microphone
K 31	**RJP3G23Z**	Plug, 3P/CP1, 4
K 32	**RJP4G23Z**	Plug, 4P/CP2
K 33	**RJP6G23Z**	Plug, 6/CP5
K 34	**RJP7G21Z**	Plug, 7P/CP3
K 36	**RJT1031Z**	Earth Terminal
K 37	**RJS7M2Y**	Socket (7P/CS1)
K 38	**XTV3 + 10G**	Screw ⊕3×10 (Dial Chassis, Main Circuit Board, etc. M'tg)

Ref. No.	Part No.	Part Name & Description
K 39	**RUB435Z**	Lever, Rec/Play
K 40	**RUB436Z**	Joint Lever, Rec/Play
K 41	**RUD47Z**	Spring (Joint Lever, Rec/Play)
K 42	**RUD46Z**	Spring (Lever, Rec/Play)
K 43	**XTWS3 + 10Q**	Screw ⊕3×10 (R/P Lever, etc. M'tg)
K 45	**XWG3**	Washer ϕ3 (Telescopic Antenna)
K 46	**XWG2**	Washer ϕ2 (Cabinet)
K 47	**XTN2 + 8B**	Screw ⊕2×8 (Cabinet M'tg)
K 48	**XTN3 + 10B**	Screw ⊕3×10 (Halfway Gear M'tg)
K 49	**XWG3**	Washer ϕ3 (Halfway Gear)
K 50	**XTWS3 + 10Q**	Screw ⊕3×10 (Tuning Knob M'tg)
K 51 [K]	**RBD385Z**	Knob, Band Selector (Gray)
K 51 [R]	**RBD385Z1**	Knob, Band Selector (Black) [For Canada.]
K 53	**RUP2101Z**	Circuit Board (LED, MIC, Battery Terminal)
K 54	**RJS4L3Z**	Socket, 4P/CS6
K 55	**RJT707Z**	Contact, Socket
K 56	**RZW1XFW17LZ**	Lead Wire A Ass'y (3P/CS4)
K 57	**RZW2XFW17LZ**	Lead Wire B Ass'y (3P/CS1)
K 58	**RZW3XFW17LZ**	Lead Wire C Ass'y (4P/CS2)
K 59	**RZW4XFW17LZ**	Lead Wire D Ass'y (6P/CS5)
K 60	**XTN3 + 10G**	Screw ⊕3×10 (LED Circuit Board, Mechanism M'tg)
K 61	**RJP4G4Y**	Plug, 4P/CP6
		ACCESSORIES
A 1 [M]	**RQX4766Z**	Operating Instructions [For U.S.A.]
A 1 [C]	**RQX4817Z**	Operating Instructions [For Canada.]
A 2 [M]	**RD9448M**	AC Adaptor ⚠ [For U.S.A.]
A 2 [C]	**RD9403MC**	AC Adaptor ⚠ [For Canada.]
		PACKINGS
P 1	**RPN9528Z**	Cushion, Complete
P 2 [M]	**RPK2260Z**	Gift Box [For U.S.A.]
P 2 [C]	**RPK2303Z**	Gift Box [For Canada.]
P 3	**RPH528Z**	Cover, Set
P 4	**RPN4983Z**	Pad
P 5	**RPE611Z**	Spacer, Pause Button

HOW TO DISASSEMBLY AND ASSEMBLY

■ DISASSEMBLY OF MECHANISM UNIT

Removal of the motor attachment bracket will separate the Tape [1] and Tape [2] units.

1. Remove the flywheel belts and secure these to the motor.

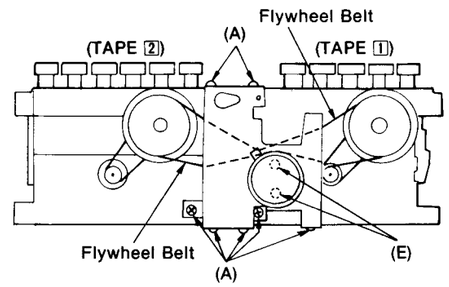


Fig. 1

2. Remove the motor attachment bracket. (See Fig. 1.) Seven screws (2×4)mm (A). (See Fig. 1.)

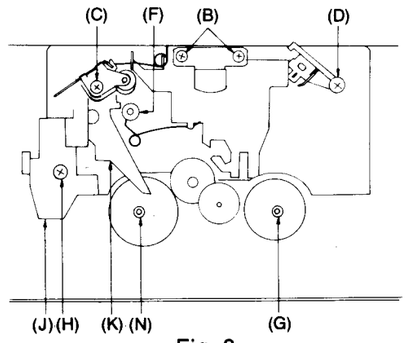


Fig. 2

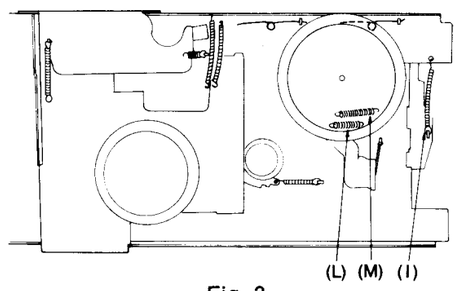


Fig. 3

■ ASSEMBLY OF MOTOR ASS'Y

1. Attach both flywheel belts to the motor pulley.
2. Bring the flywheel belts to the rear and attach them temporarily to the motor terminal (broken lines).
3. Attach the motor ass'y to tape [1] and Tape [2] mechanisms with the seven screws (2×4)mm (A). (See Fig. 1.)
4. Attach the flywheel belts to the flywheels (solid line).

■ DISASSEMBLY OF MAJOR MECHANISM PARTS

- **Head**
  Remove the two screws (2×7)mm (B). (See Fig. 2.)
  (Be sure to adjust the azimuth after reattaching.)
- **Pinch roller**
  Remove the screw (3×6)mm (C). (See Fig. 2.)
- **Erase head** (Tape [2] unit only)
  Remove the screw (3×6)mm (D). (See Fig. 2.)
- **Motor**
  Remove the motor attachment bracket, which will separate the Tape [1] and Tape [2] unit. (See Fig. 1.)
  Remove the two colored screws (E). (See Fig. 1.)
- **Flywheel**
  Temporarily secure the flywheel belts to the motor.
  Remove the Fast Forward belt. Remove the washer (F). (See Fig. 2.)
- **Supply reel table**
  Remove the washer (G). (See Fig. 2.)
- **Take-up reel table**
  Remove the screw (3×6)mm (H). (See Fig. 2.)
  Remove the spring (I). (See Fig. 3.)
  Remove the eject slide lever (J). (See Fig. 2.)
  Remove the auto stop lever (K). (See Fig. 2.)
  Remove the spring (L). (See Fig. 3.)
  Remove the spring (M). (See Fig. 3.)
  Remove the washer (N). (See Fig. 2.)

Ref. No.	Part No.	Part Name & Description
K 39	**RUB435Z**	Lever, Rec/Play
K 40	**RUB436Z**	Joint Lever, Rec/Play
K 41	**RUD47Z**	Spring (Joint Lever, Rec/Play)
K 42	**RUD46Z**	Spring (Lever, Rec/Play)
K 43	**XTWS3 + 10Q**	Screw ⊕3×10 (R/P Lever, etc. M'tg)
K 45	**XWG3**	Washer ϕ3 (Telescopic Antenna)
K 46	**XWG2**	Washer ϕ2 (Cabinet)
K 47	**XTN2 + 8B**	Screw ⊕2×8 (Cabinet M'tg)
K 48	**XTN3 + 10B**	Screw ⊕3×10 (Halfway Gear M'tg)
K 49	**XWG3**	Washer ϕ3 (Halfway Gear)
K 50	**XTWS3 + 10Q**	Screw ⊕3×10 (Tuning Knob M'tg)
K 51 [K]	**RBD385Z**	Knob, Band Selector (Gray)
K 51 [R]	**RBD385Z1**	Knob, Band Selector (Black) [For Canada.]
K 53	**RUP2101Z**	Circuit Board (LED, MIC, Battery Terminal)
K 54	**RJS4L3Z**	Socket, 4P/CS6
K 55	**RJT707Z**	Contact, Socket
K 56	**RZW1XFW17LZ**	Lead Wire A Ass'y (3P/CS4)
K 57	**RZW2XFW17LZ**	Lead Wire B Ass'y (3P/CS1)
K 58	**RZW3XFW17LZ**	Lead Wire C Ass'y (4P/CS2)
K 59	**RZW4XFW17LZ**	Lead Wire D Ass'y (6P/CS5)
K 60	**XTN3 + 10G**	Screw ⊕3×10 (LED Circuit Board, Mechanism M'tg)
K 61	**RJP4G4Y**	Plug, 4P/CP6
ACCESSORIES		
A 1 [M]	**RQX4766Z**	Operating Instructions [For U.S.A.]
A 1 [C]	**RQX4817Z**	Operating Instructions [For Canada.]
A 2 [M]	**RD9448M**	AC Adaptor ⚠ [For U.S.A.]
A 2 [C]	**RD9403MC**	AC Adaptor ⚠ [For Canada.]
PACKINGS		
P 1	**RPN9528Z**	Cushion, Complete
P 2 [M]	**RPK2260Z**	Gift Box [For U.S.A.]
P 2 [C]	**RPK2303Z**	Gift Box [For Canada.]
P 3	**RPH528Z**	Cover, Set
P 4	**RPN4983Z**	Pad
P 5	**RPE611Z**	Spacer, Pause Button

HOW TO DISASSEMBLY AND ASSEMBLY

■ DISASSEMBLY OF MECHANISM UNIT

Removal of the motor attachment bracket will separate the Tape [1] and Tape [2] units.

1. Remove the flywheel belts and secure these to the motor.

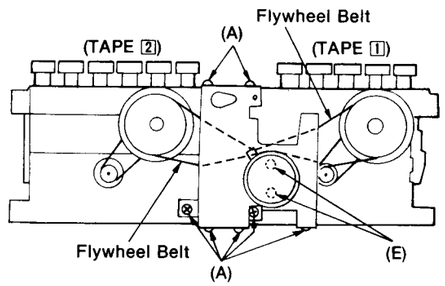


Fig. 1

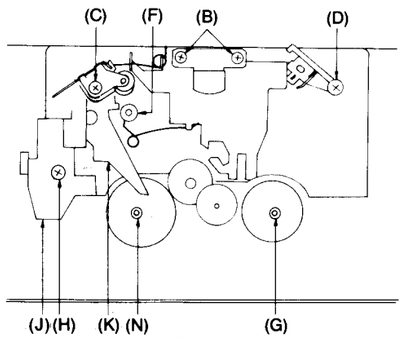


Fig. 2

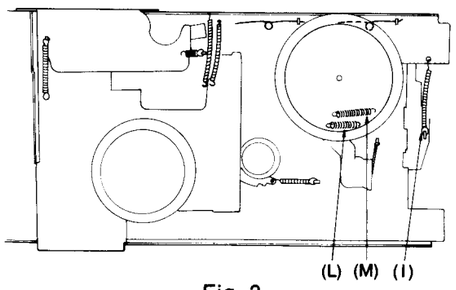


Fig. 3

2. Remove the motor attachment bracket. (See Fig. 1.) Seven screws (2×4)mm (A). (See Fig. 1.)

■ ASSEMBLY OF MOTOR ASS'Y

1. Attach both flywheel belts to the motor pulley.
2. Bring the flywheel belts to the rear and attach them temporarily to the motor terminal (broken lines).
3. Attach the motor ass'y to tape [1] and Tape [2] mechanisms with the seven screws (2×4)mm (A). (See Fig. 1.)
4. Attach the flywheel belts to the flywheels (solid line).

■ DISASSEMBLY OF MAJOR MECHANISM PARTS

- **Head**
  Remove the two screws (2×7)mm (B). (See Fig. 2.)
  (Be sure to adjust the azimuth after reattaching.)
- **Pinch roller**
  Remove the screw (3×6)mm (C). (See Fig. 2.)
- **Erase head** (Tape [2] unit only)
  Remove the screw (3×6)mm (D). (See Fig. 2.)
- **Motor**
  Remove the motor attachment bracket, which will separate the Tape [1] and Tape [2] unit. (See Fig. 1.)
  Remove the two colored screws (E). (See Fig. 1.)
- **Flywheel**
  Temporarily secure the flywheel belts to the motor.
  Remove the Fast Forward belt. Remove the washer (F). (See Fig. 2.)
- **Supply reel table**
  Remove the washer (G). (See Fig. 2.)
- **Take-up reel table**
  Remove the screw (3×6)mm (H). (See Fig. 2.)
  Remove the spring (I). (See Fig. 3.)
  Remove the eject slide lever (J). (See Fig. 2.)
  Remove the auto stop lever (K). (See Fig. 2.)
  Remove the spring (L). (See Fig. 3.)
  Remove the spring (M). (See Fig. 3.)
  Remove the washer (N). (See Fig. 2.)

CAPACITORS AND RESISTORS

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)
ERX	2	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type	Wattage Tolerance
ERD: Carbon ERG: Metal Film ERX: Metal Film ERQ: Fuse Type Metal RRD: Carbon (Chip Type)	10 : ⅛ W J : ±5% 12 : ½ W 25 : ¼ W 1 : 1 W 18 : ⅛ W

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value (1000 pF)	Tolerance	Peculiarity
ECEA	50	M	R47	
Type	Voltage	Peculiarity	Value (0.47 μF)	

Capacitor Type	Voltage: ECEA Type	Voltage: Other	Tolerance
ECEA: Electrolytic ECCD: Ceramic ECKD: Ceramic ECQM: Polyester ECQP: Polypropylene ECET: Electrolytic ECEA□□□N: Non Polar Electrolytic QCU□: Ceramic (Chip Type) ECUX: Ceramic (Chip Type)	0J : 6.3 V 1A : 10 V 1C : 16 V 1E : 25 V 1H : 50 V 1V : 35 V 50 : 50 V 25 : 25 V 16 : 16 V	2H : 500 V DC 1 : 100 V DKC : 400 V AC	C : ±0.25 pF J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

REPLACEMENT PARTS LIST

Ref. No.	Part No.
CAPACITORS	
C 1, 5, 9	**ECKD1H102MD**
C 2	**ECCD1H220KC**
C 3	**ECCD1H040C**
C 6	**ECCD1H150KC**
C 7	**ECCD1H180KC**
C 8	**ECCD1H470KC**
C 10, 11	**ECKD1H103ZF**
C 12	**ECCD1H020C**
C 18, 30, 35, 41, 42, 57	**ECFT1C223MD**
C 21	**ECCD1H050C**
C 31	**ECEA1HU2R2**
C 36	**ECEA0JU471**
C 38, 40	**ECFT1C103MD**
C 43	**ECCD1H331K**
C 45	**ECEA1CU100**
C 46, 50, 54, 55	**ECEA1HU010**
C 47	**ECFT1C153MD**
C 48	**ECEA1HU0R1**
C 51	**ECQP2A102JZ**
C 52, 53	**ECFT1C333MD**
C 56	**ECCD1H181K**
C 101, 102, 201, 202	**ECKD1H102KB**
C 103, 112, 123, 203, 212, 223	**ECEA0JU470**
C 105, 120, 205, 220	**ECFT1C333KD**
C 106, 206, 327	**ECEA1HUR47**
C 107, 111, 125, 207, 211, 225, 311	**ECFT1C473MD**
C 108, 208	**ECKD1H681KB**
C 110, 210, 314	**ECKD1H471KB**
C 113, 213, 301, 318, 321, 323, 329, 337	**ECEA1CU100**
C 115, 215	**ECEA1HU0R1**
C 117, 118, 217, 218, 317	**ECEA1HU010**
C 119, 219	**ECFT1C333MD**
C 121, 221	**ECKD1H222MD**
C 122, 222, 316, 328	**ECEA0JU101**
C 124, 224, 332, 340	**ECKD1H103MD**
C 126, 226, 302, 322	**ECEA0JU471**
C 127, 227	**ECFT1C683MD**
C 214	**ECKD1H472MD**
C 303	**ECEA0JU330**
C 306	**ECCD1H181K**
C 307	**ECKD1H103ZF**
C 308	**ECQP2A272JZ**
C 309	**ECEA0JU221**
C 310, 319	**ECFT1C223MD**
C 312, 325	**ECFT1C103MD**
C 315	**ECKD1H102MD**
C 326	**ECFT1C153MD**
C 330	**ECEA1EU4R7**
C 331	**ECEA1CU221**
C 339	**ECEA1CU330**
C 341	**ECEA1AU221**
C 342	**ECEA1CU222**
RESISTORS	
R 1	**ERDS2TJ151**
R 2	**ERDS2TJ101**
R 3	**ERDS2TJ100**
R 5	**ERDS2TJ332**
R 6	**ERDS2TJ824**
R 7	**ERDS2TJ331**
R 8	**ERDS2TJ221**
R 13	**ERDS2TJ470**
R 16	**ERDS2TJ222**
R 17	**ERDS2TJ123**
R 18, 24	**ERDS2TJ104**
R 20	**ERDS2TJ560**
R 21	**ERDS2TJ472**
R 22, 23	**ERDS2TJ821**
R 25	**ERDS2TJ822**
R 26, 27	**ERDS2TJ392**
R 28, 29	**ERDS2TJ153**
R 33	**ERDS2TJ394**
R 101, 201, 317, 325	**ERDS2TJ104**
R 102, 202	**ERDS2TJ470**
R 103, 203, 305, 320	**ERDS2TJ472**
R 103, 208, 345	**ERDS2TJ471**
R 106, 206	**ERDS2TJ183**
R 110, 113, 210, 213	**ERDS2TJ152**
R 114, 214	**ERDS2TJ153**
R 115, 124, 215, 224, 307	**ERDS2TJ223**
R 116, 216	**ERDS2TJ151**
R 117, 217	**ERDS2TJ331**
R 118, 122, 218, 222	**ERDS2TJ682**
R 119, 121, 219, 221, 303, 323, 324, 327, 330, 333	**ERDS2TJ103**
R 120, 220	**ERDS2TJ333**
R 123, 223	**ERDS2TJ1R0**
R 125, 225, 301, 306, 326, 339	**ERDS2TJ101**
R 308	**ERDS2TJ6R8**
R 310	**ERDS2TJ561**
R 311, 313	**ERDS2TJ222**
R 312	**ERDS2TJ334**
R 315	**ERDS2TJ330**
R 316	**ERDS2TJ392**
R 318, 336, 341	**ERDS2TJ102**
R 322	**ERDS2TJ335**
R 328	**ERDS2TJ105**
R 331	**ERDS2TJ123**
R 335	**ERDS2TJ332**
R 348	**ERX1ANJR47**

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